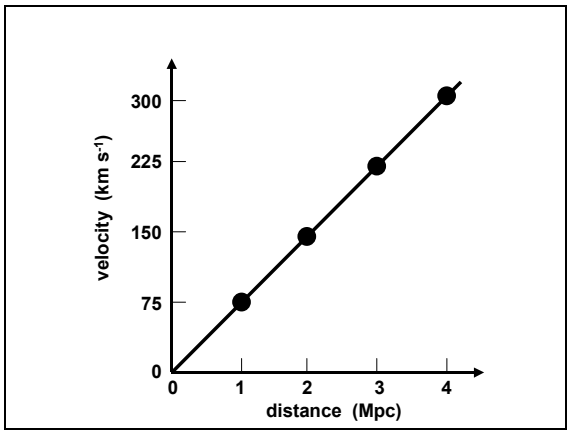
Natural Sciences 102 -- Spring 2005

Homework #7 May 17, 2005
Due in class May 24 2005

1. The Hubble Diagram:

a) From the following velocity-distance diagram, calculate the Hubble constant in units of km s^{-1} Mpc^{-1}.



b) Please explain how the above diagram can be used as a basis for an estimate of the age of the universe.
c) Using the information in the diagram above, what is expansion age of the universe?
d) Hubble's originally determined an expansion rate of 500 km s^{-1} Mpc^{-1}.
   1. What was his expansion age for the universe?
   2. Why was this age a problem?

News of the week

- The award-winning class website is http://home.fnal.gov/~rocky/NS102/ .
- This week's laboratory will be "The Hubble Constant."
- Next week's lab will be "Big Bang Nucleosynthesis."
- May's reading assignment is Kolb, Chapters 6-11.
- It would be a good idea to start Hawking.